

# Department of the Interior, Bureau of Land Management

Roswell Field Office  
2909 W. Second Street  
Roswell, New Mexico 88201

Project: Roosevelt Special "BIO" Federal #1  
Location: Section: 33, T. 8 S., R. 36 E.  
Applicant: Yates Petroleum Corporation  
Roswell Field Office: (505) 627-0272

EA Log Number: NM-510-07-38  
Lease Number: NM-98205  
File Code: 3160

## Finding of No Significant Impact

Impact identification and analysis of approving the project proposal and/or alternative(s) has been completed. A complete and comprehensive environmental analysis has been conducted. Completion of the environmental assessment, along with implementation of required stipulations and/or mitigating measures outlined in the environmental assessment and Application for Permit to Drill (APD) conditions of approval, will result in (projected) impacted resources values being restored to pre-project conditions and/or acceptable post-project standards. Further analysis in an environmental impact statement is not needed.

## Decision Record

Based upon the analysis, the proposed Roosevelt Special "BIO" Federal #1 re-entry oil well, located in NW $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 33, T. 8 S., R. 36 E., 660' FNL & 1980' FEL, Unit B is approved.

The Bureau of Land Management's approval of the APD does not relieve the lessee and operator from obtaining required authorizations from the private surface owner.

Rational: The amount of new long-term disturbance will be limited to the well pad and access road. Short-term impacts will last approximately one growing season or until there is successful plant growth on the rehabilitated portion.

The Bureau of Land Management staff has reviewed the environmental assessment and identified site-specific mitigation measures to avoid or minimize surface impacts resulting from the construction of this project. The well pad and access road will remain as long term impacts. The cumulative impacts to the environment from existing and new development have been identified. During construction activities, machinery emissions, disturbed ground, drilling and construction equipment will result in short-term visual impacts. These impacts will be minimized by a rapid construction schedule and site restoration.

## VRM

The Bureau of Land Management has developed a visual resource management (VRM) classification system designed to enhance visual qualities and describe degrees of modification to the landscape. The proposed project area is classified as a class III VRM. The III VRM allows for some modifications of the existing landscape and the level of change in the basic landscape from his management level can be high.

A cultural and historic resource category 3 inventory was conducted on December 29, 2006. A total of 8.26 acres of N.M Game and Fish land was inventoried for this proposed well. No sites were recorded that could be impacted. Standard stipulations will be required on the project. See Cultural Resource number 07-R-018-A. A cultural clearance was granted on January 17, 2007.

The operator would be allowed to drill this well as part of the further development of, and in accordance with, terms of their Federal lease.

A bond is required for all Federal leases. The bond must guarantee performance and compliance with the lease terms and cover all liabilities arising from, or related to drilling operations on a Federal lease including the restoration of any land or surface waters adversely affected by lease development.

Production history in the Permian Basin has demonstrated that there are no unique or unknown risks. The effects of oil and gas exploration and production are known, and based on experience, mitigation measures and stipulations have been developed to avoid, minimize or eliminate impacts.

The effects on the human environment have not been controversial in the past and the public has not voiced opposition to new wells being drilled in the area.

Secondary effects on soil, erosion, vegetation, cultural resources, wildlife habitat and recreation resources were considered. Partial reclamation will occur during the production phase and full reclamation will occur after final abandonment. Residual impacts that remain after mitigation measures and implemented are found acceptable.

This proposed action is in compliance with the Roswell Resource Management Plan and Final Environmental Management Plan that was approved October 10, 1997. These plans have been reviewed to determine if the proposed action conforms with the land-use planning terms and conditions required by 43 CFR 1610.5. County and local planning: No land-use planning or zoning exists in Chaves County that will affect this action.

Stipulations

Mitigating measures were considered and analyzed in the Environmental Assessment. Based on impact analysis, specific stipulations and/or mitigating measures have been selected and are attached to the approved APD/Sundry. The applicant is responsible for implementing these mitigating measures to prevent and/or reduce impacts projected to occur during and after project completion.

Administrative Review and Appeal: Under BLM regulations, this Decision Record (DR) is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this DR must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, 1474 Rodeo Road, Santa Fe, NM 87505, no later than 20 business days after this DR is received or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Prepared by:  
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**BUREAU OF LAND MANAGEMENT  
ROSWELL FIELD OFFICE**

**ENVIRONMENTAL ASSESSMENT # NM-510-07-38 FOR  
Roosevelt “BIO” Federal #1**

**1.0 Introduction**

Yates Petroleum Corporation has filed an application to drill the Roosevelt Special “BIO” Federal #1 oil well in Section 33, T. 8S., R. 26E.

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan Final Environmental Impact Statement (PRMP/FEIS). This document is available for review at the Roswell Office. This project EA addresses site-specific resources and/or impacts that are not specifically covered within the PMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 U.S.C. 4321 et seq.).

**1.1 Purpose and Need**

The purpose for the proposal is to define and produce oil or natural gas on one or more valid Federal and gas mineral leases issued to the applicant by the BLM. It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet National, regional, and local needs. The Mineral Leasing Act of 1920 (MLA), as amended [30 USC 181 et seq.], authorizes the BLM to issue oil and gas leases for the exploration of oil and gas, and permit the development of those leases. The existing lease is a binding legal contract that allows development of the mineral by the applicant. An approved Application for Permit to Drill (APD), issued by the BLM, would authorize the applicant to construct and drill the proposed well.

**1.2 Conformance with Applicable Land Use Plan and Other Environmental Assessments**

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this site-specific EA tiers to and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS, BLM [January 1997]), which was approved as the Approved Resource Management Plan for the Roswell Field Office (RFO) of the BLM by the Record of Decision (ROD) signed October 10, 1997. The PRMP/FEIS and ROD are available for review at the Roswell Field Office, Roswell, New Mexico. This EA addresses the resources and impacts on a site-specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). The proposed project would not be in conflict with any State, local, or county plans.

**1.3 Federal, State or Local Permits, Licenses or Other Consultation Requirements**

Under Section 402 of the Clean Water Act (as amended), the U.S. Environmental Protection Agency (EPA), was directed to develop a phased approach to regulate storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Industrial activities disturbing land may require permit coverage through a NPDES storm water discharge. Depending on the acreage disturbed, either a Phase I industrial activity (5 or more acres disturbance) or a Phase II small construction activities (between 1 and 5 acres disturbance) permit may be required. Additionally, an U.S. Army Corps of Engineers Section 404 permit for the discharge of dredge and fill materials may also be required. Additionally, a New Mexico Surface Water Quality Bureau 401 certification may also be required under a U.S. Army Corps of Engineers Section 404 permit. Operators are required to obtain all necessary permits and approvals prior to any disturbance activities.

Roswell Field Office staff reviewed the proposed action and determined it would be in compliance with threatened and endangered species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the U.S. Fish and Wildlife Service is required.

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – New Mexico State Historic Preservation Officer protocol agreement, which is authorized by the National Programmatic Agreement between the *BLM*, the *Advisory Council on Historic Preservation*, and the *National Conference of State Historic Preservation Officers*, and other applicable BLM handbooks.

Additionally, the Operator is required to:

- Comply with all applicable Federal, State and local laws and regulations.
- Obtain the necessary permits for the drilling, completion and production of these wells including water rights appropriations, the installation of water management facilities, water discharge permits, and relevant air quality permits.
- Certify that a Surface Use Agreement has been reached with private landowners where required.

## 2.0 Alternatives Including the Proposed Action

### 2.1 Alternative A - No Action

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity will not take place. This option is provided in 43 CFR 3162.3-1 (h) (2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area. No mitigation measures would be required.

Under the terms of valid Federal mineral leases, the lessee has the right to develop mineral resources. Other laws, regulations, and policy include provisions for the economic development of existing leases. By Federal law, the government must abide by the terms, conditions, and provisions agreed to when leases were issued. In the Council of Environmental Quality regulations (40 CFR 1500.3), it states that parts 1500-1508 of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969...” except where compliance would be inconsistent with other statutory requirements”.

The No Action Alternative is presented for baseline analysis of resource impacts.

### 2.2 Alternative B Proposed Action

Yates Petroleum Corporation submitted an Application for Permit to Drill on 12/20/06. Yates Petroleum Corporation submitted a Notice of Staking on 12/11/06, to drill the Roosevelt Special “BIO” Federal #1 oil well. This well will be re-entered. The well is located on New Mexico Game & Fish surface estate.

1. The proposed road is approximately 28,776 feet in length, beginning from the State Highway 206 to the proposed well pad. Of the 28,776 feet, approximately 28,776 feet is existing road and about 100 feet of access road would be renovated, and no part of road would cross public land. The entire road is on private surface and will not require a right-of-way.

The road would have a driving surface (travelway) of 14 feet, with a maximum 30-foot wide surface disturbance area for the road construction. The renovation of about 100 feet of access road would begin

from an existing road and would access the southeast corner of the proposed well pad. All other existing access roads would be maintained in a good or better condition than those existing at the commencement of operations.

2. The construction of the proposed well pad would be 259 feet long by 190 feet wide. The construction of the reserve pit would be about 120 feet by 165 feet and dug 4 feet below ground level. The reserve pit would be located on the north side of the well pad. Standard oilfield construction equipment consisting of; track-type tractors, motor graders, dump trucks, and water trucks would be used to construct the access road and well pad. A rotary drilling rig would be used to drill the well to a depth of 9860 feet. Associated production facilities (e.g., pipeline, separator, storage tanks, etc.) would be installed during the production phase of this well.

**3. Construction and drilling activities would be conducted outside of the period of February 15<sup>th</sup> through June 30<sup>th</sup> to protect lesser prairie chicken habitat.**

Proposed Well Information:

Well Name	Number	Township	Range	Section	Lease Number	Date Lease Issued
Roosevelt Special "BIO" Federal	1	8 S.	36 E.	33	NM-98205	02/05/1997

County: Roosevelt

Applicant: Yates Petroleum Corporation

Surface Owners: New Mexico Department of Game & Fish (state surface lands) and Bureau of Land Management minerals.

### 2.3 Alternative

The APD will be approved as proposed. No modifications, or alternatives, to the original proposal received from the operator, were identified as the result of the onsite inspection(s) (1/10/07). The well will be re-entered on an existing well site.

The mitigation measures to the proposed action resulting from the on-site will be analyzed in Alternative C.

### 2.4 Alternatives Considered But Not Analyzed In Detail

#### Relocate the Proposed Action:

The well location is determined on the basis of subsurface geologic information. No other alternative location would have significantly fewer impacts than, or have a clear advantage over, the projected location. Therefore, the alternative of changing the location involved in this action is not analyzed further in this EA.

### 3.0 Description of Affected Environment

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues. Certain critical environmental components require analysis under BLM policy. These items are included below in Table 3.0, found as the first page of this document. Following the table, only the aspects of the affected environment that are potentially impacted are described.

### 3.1 Air Quality

The area of the proposed action is considered a Class II air quality area. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

### **3.2 Areas of Critical Environmental Concern (ACECs)**

The proposed action would not be located within any ACEC presently designated by the RMP.

### **3.3 Cultural Resources**

A cultural inventory survey, 07-R-018-A revealed no archeological or historic sites that would be impacted by this undertaking.

### **3.4 Native American Religious Concerns**

A review of existing information indicates the proposed action is outside any known Traditional Cultural Property.

### **3.5 Environmental Justice**

Executive Order 12898 requires Federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety impacts on minority and low-income populations.

### **3.6 Farmlands, Prime or Unique - Not Present.**

### **3.7 Floodplains – NON PRESENT**

### **3.8 Invasive, Non-native Species**

There are no known populations of invasive or noxious weed species on the proposed access road and well pad.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause estimated losses to producers \$2 to \$3 billion annually. These losses are attributed to: (1) Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed and animal health care costs. Increased costs to operators are eventually borne by consumers.

Noxious weeds also affect recreational uses, and reduce realty values of both the directly influenced and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs. Monies would be made available for these activities from the federal government, generated from the federal tax base. Therefore, all citizens and taxpayers of the United States are directly affected when noxious weed control prevention is not exercised.

### **3.9 Threatened or Endangered Species**

**There are no known threatened or endangered species present on this site.**

### **3.10 Wastes, Hazardous or Solid**

No waste material will be removed from the project area and upon reclamation of the reserve pit the NMOCD rules will be imposed and the reserve pit contents will be encapsulated.

### **3.11 Water Quality**

**Surface;** Surface water within the area is affected by geology, precipitation, and water erosion. Factors that currently affect surface water resources include livestock grazing management, oil and gas development, recreational use and brush control treatments. No perennial surface water is found in the area. Ephemeral surface water within the area may be located in tributaries, playas, alkali lakes and stock tanks.

**Ground;** Groundwater within the area is affected by geology and precipitation. Factors that currently affect groundwater resources in the area include livestock grazing management, oil and gas development, groundwater pumping, and possible impacts from brush control treatments. Most of the groundwater in the area is used for industrial, rural, domestic and livestock purposes.

### **3.12 Wetlands /Riparian Zones – Not present.**

### **3.13 General Topography/Surface Geology**

The topographic characteristics and/or regional setting of the project area are:

Within the immediate terrain of the project area the soils are sandy with small hummocky rolling dunes. The topography of the project area on the whole is mostly flat plains with shinnery oak vegetation. The well pad already exists and minor soil displacement will occur.

### **3.14 Mineral Resources**

Construction material (caliche/gravel) for surfacing the access road and well pad could be obtained by the operator from private sources, a private surface federal minerals pit located in sec. 24 of this township or from any plugged and abandoned well pad site.

### **3.15 Paleontology**

This undertaking is unlikely to affect paleontological resources.

### **3.16 Soil**

The *Soil Survey of Roosevelt County, New Mexico, (USDA Soil Conservation Service 1967)* was used to describe and analyze impacts to soils from the proposed action. The soil map units represented in the project area are:

Brownfield soils, severely eroded (Bf) Severely eroded soils occur in old fields that are being cultivated or that have been abandoned. 50 to 75 percent of the original surface layer has been removed by erosion.

### **3.17 Watershed – Hydrology**

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on the location, extent, timing and the type

of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent roads, temporary roads, pipelines, and powerlines.

### 3.18 Vegetation -Shinnery Oak Dune

This lease is within the shinnery-oak dune vegetative community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Appendix 11 of the Draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The primary features in the shinnery oak dune (SOD) community are topography influenced by aeolian and alluvial sedimentation on upland plains forming hummocks, dunes, sand ridges and swales and the presence of shinnery oak. The topography is gently sloping and undulating sandy plains, with moderate to very steep hummocky dunes of up to ten feet and more in height scattered throughout the area. Some of the dunes are stabilized with vegetation, while a number of them are unstable and shifting. Dune blowouts with shinnery oak (*Quercus havardii*) and bluestem (*Andropogon* spp.), either isolated or in dune complexes are common in this community. Dominant grasses include sand bluestem (*Andropogon hallii*), little bluestem (*Schizacyrium scoparium*), and threeawn (*Aristida* spp.).

The Ecological Site Description for the proposed well pad and access road is [CP-2 Deep Sand (Pecos-Canadian Plains & Valleys)].

### 3.19 Livestock Grazing/Range

The access road and well pad are not located on a BLM grazing allotment (**Unalloted**).

### 3.20 Wildlife

### 3.21 Special Status Species

In accordance with BLM Manual 6840, BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. Included in this category are State listed endangered species and Federal candidate species which receive no special protections under the Endangered Species Act. Special status species with potential to occur in the proposed project area are listed in Table 3.22.1.

**Table 3.21.1 Habitat descriptions and Presence of BLM Roswell Field Office Special Status Species.**

Common Name (scientific name)	Status	Habitat	Presence*
<b>Lesser Prairie Chicken</b> <i>(Tympanuchus pallidicinctus)</i>	<b>Federal candidate</b>	<b>Shinnery oak - dune</b>	<b>K</b>

**Presence\* K-** Known, documented observation within project area.

### 3.22 Visual Resources

Visual Resource Management (VRM) on public land is conducted in accordance with BLM Handbook 8410 and BLM Manual 8411.

### 3.23 Recreation

There is no potential of recreation within the area of the proposed project.

### 3.24 Cave/Karst



No surface cave/karst features were observed in the immediate vicinity of the proposed actions. However, the proposed actions are located in the *Medium Karst Potential Area*.

### 3.25 Public Health and Safety

The project will not be detrimental to the public health. The operator will insure that all phases of the project operations are conducted in workman like manner. Precautionary procedures and/or measures will be strictly adhered to in order provide a safe and sound working environment for the life of the well.

## 4.0 Environmental Consequences and Proposed Mitigation Measures

### No Action Alternative

Under the No Action Alternative, the proposed wells would not be drilled. There would be no new impacts from oil and gas production to the resources. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of alternatives.

### Alternative B

Under Alternative B, the Proposed Action, the wells would be drilled as originally proposed, without changes to reduce the potential impact to the environment. A summary of potential surface disturbance is presented in Table 4.0. Descriptions of potential impacts on individual resources for action alternatives is presented in the following text. Also described are mitigation measures that could be incorporated by the BLM where appropriate as Conditions of Approval attached to the permit

Table 4.0 Summary of Disturbance

Facility	Number of Miles	Acreage of Disturbance	Duration of Disturbance
Well Pad		2.2	Long Term
Road Renovation	0.01	0.03	Long Term
Buried Power Cable			Short Term

Short-term impacts are those which can be stabilized or mitigated rapidly (within 5 years). Long-term impacts are those that would substantially remain for more than 5 years.

## 4.1 Air Quality

### 4.1.1 Direct and Indirect Impacts

Air quality would temporary be directly impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access road, well pad, and by the drilling rig that will be used to drill the well. Dust dissemination would discontinue upon completion of the construction phase of the access road and well pad. Air pollution from the motorized equipment would discontinue at the completion of the drilling phase of the operations. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction and drilling phases are completed. Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from recreational use, and dust from use of roads for vehicular traffic.

### 4.1.2 Mitigation - None

## **4.2 Areas of Critical Environmental Concern - Not Present**

## **4.3 Cultural Resources**

### **4.3.1 Direct and Indirect Impacts**

There should be no direct and indirect impacts to cultural resources in regard to the drilling of this well.

## **4.4 Native American Religious Concern**

### **4.4.1 Direct and Indirect Impacts**

To date, the area to be affected by this undertaking has not been identified by the tribes that have historically inhabited the area.

## **4.5 Environmental Justice**

### **4.5.1 Direct and Indirect Impacts**

No minority or low income populations would be directly affected in the vicinity of the proposed action. Indirect impacts could include impacts due to overall employment opportunities related to the oil and gas and service support industry in the region, as well as the economic benefits to State and County governments related to royalty payments and severance taxes. Other impacts could include a small increase in activity and noise disturbance in areas used for grazing, wood gathering or hunting. However, these impacts would apply to all public land users in the project area.

### **4.5.2 Mitigation - None required.**

## **4.6 Farmlands, Prime or Unique - Not Present**

## **4.7 Floodplains NON-Present**

## **4.8 Invasive, Non-native Species**

### **4.8 .1 Direct and Indirect Impacts**

The construction of an access road and well pad may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seed could be carried to and from the project areas by construction equipment, the drilling rig and transport vehicles. The main mechanism for seed dispersion on the road and well pad is by equipment and vehicles that were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seed may be elevated by the use of construction equipment typically contracted out to companies that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting onto and exiting the construction areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

### **4.8 .2 Mitigation**

In the event noxious weeds are discovered during construction of the access road and well pad, measures will be taken to mitigate those impacts.

## **4.9 Threatened or Endangered Species**

**There are no known threatened or endangered species present on this site.**

## **4.10 Wastes, Hazardous or Solid**

### **4.10.1 Direct and Indirect Impacts**

The lease parcels fall under environmental regulations that impact exploration and production waste management and disposal practices and impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges.

### **4.10.2 Mitigation**

The NMOCD rules will be imposed and the reserve pit contents will be encapsulated.

## **4.11 Water Quality:**

### **A. Surface;**

#### **4.11.1A Direct and Indirect Impacts**

Surface disturbance from the construction of the well pad, access road, pipelines, and powerlines can result in degradation of surface water quality and groundwater quality from non-point source pollution, increased soil losses, and increased gully erosion.

Potential direct impacts that would occur due to construction of the well pad, access road, pipelines, and powerlines include increased surface water runoff and off-site sedimentation brought about by soil disturbance: increased salt loading and water quality impairment of surface waters; channel morphology changes due to road and pipeline crossings; and possible contamination of surface waters by produced water. The magnitude of these impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures.

Direct impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to natural stabilization, and reclamation efforts. Construction activities would occur over a relatively short period; therefore, the majority of the disturbance would be intense but short lived. Direct impacts to surface water quality would be minor, short-term impacts which may occur during storm flow events. Indirect impacts to water-quality related resources, such as fisheries, would not occur.

Petroleum products and other chemicals, accidentally spilled, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality. Authorization of the proposed projects would require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

#### **4.11.2A Mitigation**

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breach, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or offsite, and may potentially impact surface and groundwater resources in the long term. The casing and

cementing requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

## **B. Groundwater;**

### **4.11.1B Direct and Indirect Impacts**

The useable ground-water could be contaminated by cross formation or intra-formational invasion of salt water whether from an aquifer or as produced (salt) water in association with hydrocarbons. In addition, drilling with mud systems containing toxic chemicals and other chemicals could possibly result in groundwater contamination through accidental leaks through casing or through reserve pits. The potash minerals Halite, Sylvite and other associated salts could also contaminate useable groundwater because of their solubility in the drilling fluids.

### **4.11.2B Mitigation**

The casing and cementing requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources. Drilling with air or fresh water mud systems eliminates contamination of the useable water by drilling mediums. Setting surface and/or intermediate casing below the last known useable water and cementing the casing to surface may reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breach, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or offsite, and may potentially impact groundwater resources in the long term.

### **4.12 Wetlands/Riparian Zones – None present.**

### **4.13 Wild and Scenic Rivers - Not Present**

### **4.14 Wilderness - Not Present**

### **4.15 General Topography/Surface Geology**

The surface disturbance anticipated from the construction of the well pad and access road would have minimal impacts on the area of the operations. No major land or soil displacement would occur from the cradle to grave operations associated with drilling the well.

#### **4.15.1 Direct and Indirect Impacts**

Direct impacts would result from the removal of the surface soils during construction of the well pad and access road. The consequential earth moving activities would indirectly impact the vegetation and would cause the fragmentation of the surface habitat where small animals live in the project area.

#### **4.15.2 Mitigation**

The inclusion of mitigation measures to conserve the landscape as much as possible in the Conditions of Approval would lessen the impacts from the surface disturbance activities on this project.

### **4.16 Mineral Resources - No Direct and Indirect Impacts**

#### **4.17 Paleontology - No Direct and Indirect Impacts Anticipated.**

#### **4.18 Soil**

##### **4.18.1 Direct and Indirect Impacts**

The construction of the access road, well pad, and reserve pit would physically disturb about 2.2 acres of topsoil and would expose the substratum soil. Direct impacts resulting from the oil and gas construction of the well pad, access road, and reserve pit include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of top soil productivity and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion with the possible exception of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion and off-site sedimentation. Activities that could cause these types of indirect impacts include construction and operation of well sites, access roads, gas pipelines and facilities.

Contamination of soil from drilling and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity. Some of these direct impacts can be reduced or avoided through proper design, construction and maintenance and implementation of best management practices.

Additional soil impacts associated with lease development would occur when heavy precipitation causes water erosion damage. When water saturated segment(s) on the access road become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated route of the access road.

##### **4.18.2 Mitigation**

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The impact to the soil would be remedied upon reclamation of the well pad when the stockpiled soil that was specifically conserved to establish a seed bed is spread over the well pad and vegetation re-establishes.

The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

Road constructions requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

#### **4.19 Watershed - Hydrology**

##### **4.19.1 Direct and Indirect Impacts**

Construction and surface disturbance activities from the construction of the well pad, access road, pipelines, and powerlines can result in long term and short term alterations to the hydrologic regime. Peak flow and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the construction of the well pad and road. The potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and to be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision, and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage

and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long term direct and indirect impacts to the watershed and hydrology would continue for the life of the well and would decrease once all well pad and road surfacing material has been removed and reclamation of the well pad, access road, pipelines, and powerlines has taken place. Short term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

#### **4.19.2 Mitigation**

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

### **4.20 Vegetation**

#### **4.20.1 Direct and Indirect Impacts**

The construction of the access road and well pad would remove about 2.2 acres of native vegetation. If it is a producing well, reclamation would not commence until the well is a depleted producer and plugged and abandoned. Vegetative recovery on the access road and well pad would depend on life of the well. Native vegetation would encroach on the well pad over time with only high traffic areas remaining unvegetated. If drilled as a dry hole and plugged, reclamation of the access road and well pad would immediately follow. Vegetative impacts would be short-term when the access road and well pad re-vegetate within a few years, and reclamation of the access road and well pad are successful.

#### **4.20.2 Mitigation**

No impact to vegetation is anticipated. However measures will be taken in the event impacts to vegetation are found.

### **4.21 Livestock Grazing**

#### **4.21.1 Direct and Indirect Impacts**

There would be some minor disruption of livestock grazing in the pasture, specifically on the well pad, during the construction and drilling phase of the well. Vehicle traffic would increase in the area, which may lead to conflicts with livestock.

#### **4.21.2 Mitigation**

If any conflicts with livestock do arise as a result of the access road and well pad construction, mitigation measures will be taken, and consultation with the private surface landowner or allottee will mitigate those impacts.

### **4.22 Special Status Species**

#### 4.22.1 Direct and Indirect Impacts

This project is within occupied habitat of lesser prairie chickens. Construction of the road and well pad will destroy some habitat and cause fragmentation of adjacent habitat. Drilling and well operation activities will result in noise and disturbance which may affect the bird's behavior and habitat use. Lesser prairie life revolves around mating display areas known as leks, with most lek activity taking place between March and June. Disturbance near leks and during the March to June time periods can be especially detrimental. The New Mexico Department of Game and Fish prefers that the construction and drilling activities be deferred from February 15<sup>th</sup> through June 30<sup>th</sup> to avoid the potential of any disturbance during time the LPC might be on the leks.

#### 4.22.2 Mitigation

The timing of work and limiting of noise levels to minimize disturbance impacts are regulated by stipulations as shown in Exhibit B. Habitat will be restored as per the reclamation/restoration requirements set forth in Exhibit E.

### 4.23 Wildlife

#### 4.23.1 Direct and Indirect Impacts

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access road and well pad. The construction of the access roads and well pads could cause fragmentation of wildlife habitat. The short-term negative impact to wildlife would occur during the construction phase of the operations would be due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pads would continue to displace wildlife from the areas due to ongoing disturbances such as vehicle traffic and equipment maintenance. Upon abandonment of the wells, the areas would revegetate and wildlife would return to previous levels.

#### 4.23.2 Mitigation

The conditions of approval would alleviate most losses of wildlife species, such as; netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations.

### 4.24 Recreation

There are no public lands within this area. The surface land ownership belongs to the state of New Mexico.

### 4.25 Visual Resources

Facilities, such as produced water, condensate or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of an access road, well pad and other ancillary facilities, other than facilities greater in height than eight feet, would slightly modify the existing area visual resources.

The Class III objective is to: Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form,

line, color and texture of the existing landscape. The flat color olive drab] from the supplemental environmental colors also closely approximates the brownish color of the setting. All facilities, including the meter building, would be painted this color.

#### 4. 25.1 Direct and Indirect Impacts

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape

#### 4.25.2 Mitigation

The flat color Olive Drab 18-0622 TPX from the Supplemental Environmental Colors Chart is to be used on all facilities to closely approximate the vegetation within the setting. All facilities, including the meter building, would be painted this color.

### **4.26 Cave/Karst**

There would be no impact to known cave entrances, or karst features within the areas of the proposed actions. The proposed action is located in a low karst potential area.

#### 4. 26.1 Direct and Indirect Impacts - None

#### 4. 26.2 Mitigation - None

### **4.27 Public Health and Safety**

#### 4.27.1 Direct and Indirect Impacts

The construction and drilling operations will be conducted in a safe workman like manner and no impacts are anticipated to occur when the operations are conducted in a professional constructive manner.

#### 4.27.2 Mitigation non-required

### **4.28 Cumulative Impacts**

The leased area of the proposed action has been industrialized with oil and gas well development. The surface disturbance for each project that has been permitted has created a spreading out of land use fragmentation. The cumulative impacts fluctuate with the gradual reclamation of well abandonments and the creation of new additional surface disturbances in the construction of new access roads and well pads. The on going process of restoration of abandonments and creating new disturbances for drilling new wells gradually accumulates as the minerals are extracted from the land. Preserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts.



While it is likely that there will be no significant cumulative impact from the proposed actions, continued oil and gas development, and other surface-disturbing activities in these areas, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife, and visual resources.

## 5.0 Consultation/Coordination

This section includes individuals or organizations from the public and its' users, the interdisciplinary team, and permittees that were contacted during the development of this document.

Table 5.1 Summary of Public Contacts Made During Preparation of Document and Interdisciplinary Team

Public Contact	Title	Organization	Present at Onsite?
Jim Hirsch	Lands Specialist	N.M. Game & Fish	present
Michael Massey	Field Specialist	N.M. Game & Fish	present
Mrs. Debbie Caffall	Regulatory Agent	Yates Petroleum Corporation	present
ID Team Member	Title	Organization	Present at Onsite?
Richard G. Hill	Environ. Prot. Spec.	RFO	Present
Joseph Navarro	Range Mgmt. Spec.	RFO	present
Ernest Jaquez	Wildlife Biologist	RFO	present

## 6.0 Appendices

The Roswell Field Office; Well Location Map (Exhibit A), Well Drilling Requirements (Exhibit B), Conditions of Approval (Exhibit C), Permanent Resource Road Requirements (Exhibit D), Surface Restoration/Reclamation Requirements (Exhibit E), and the special requirements derived from this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

### 6.1 References

U.S. Department of the Interior, Bureau of Land Management. January 1997, *Proposed Resource Management Plan and Final Environmental Impact Statement*. Roswell, New Mexico.

U.S. Department of the Interior, Bureau of Land Management. October 10,1997, *Resource Management Plan Record of Decision*. Roswell, New Mexico.

#### 6.1.1 APD – Complete

#### 6.1.2 Authorities

Code of Federal Regulations (CFR)

40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.

43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001. The Federal Land Policy and Management Act, as amended. Public Law 94-579.

### 6.1.3 Other Supporting Information

## **EXHIBIT B**

### **WELL DRILLING REQUIREMENTS**

1 of 6 pages

OPERATORS NAME: Yates Petroleum Corporation LEASE NO.: NM-98205  
WELL NAME & NO: Roosevelt Special "BIO" Federal #1  
QUARTER/QUARTER & FOOTAGE: NW¼NE¼ - 660' FNL & 1980' FEL  
LOCATION: Section 33, T. 8 S., R. 36 E.  
COUNTY: Roosevelt County, New Mexico, NMPM

#### **I. GENERAL PROVISIONS:**

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

#### **II. WELL PAD CONSTRUCTION REQUIREMENTS:**

- A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify **Richard G. Hill** at least **3** working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number **(505) 627-0247**.
- B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with **a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**
- C. No useable topsoil exists on the well pad that will be re-entered. Therefore, no soil stockpile is required.
- D. **No surfacing is required on the well pad. The Department of Game & Fish prefers that the holder utilize the well pad as is. However, if the Holder finds it absolutely necessary to surface portions of the well pad to provide a stable safe working area, the holder shall minimize the amount of surfacing material that will be used on the well pad.**
- E. **Reserve Pit Requirements:**
  - 1. The reserve pit shall be constructed 175' X 150' on the **North** side of the well pad.
  - 2. The reserve pit shall be constructed to a minimum depth of four (4) feet below ground level. The reserve pit shall be constructed, so that the cuttings in the reserve pit can be buried a minimum depth of three (3) feet below ground level. **See Exhibit E – Surface Reclamation/Restoration Requirements.**

3. A synthetic or fabricated liner 12 mil in thickness shall be used to line the reserve pit. The liner shall meet ASTM standards that are designed to be resistant to the reserve pit contents.
4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.
5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the well location.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife, and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

### E. Federal Mineral Materials Pit Requirements:

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.
3. Mineral Materials extracted during construction of the reserve pit may be used for development of the pad and access road as needed, for the Roosevelt Special "BIO" Federal #1 oil well only. Removal of any additional material on location must be purchased from BLM prior to removal of any material.
  - a. An optional mineral material pit may be constructed within the archaeologically cleared area. The mineral material removed in the process can be used for pad and access road construction. However, a mineral material sales contract must be purchased from the BLM prior to removal of any material.

### F. Well Pad Surfacing Requirement:

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. See Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.

### G. Cave Requirements:

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact Larry Bray at (505) 627-0250.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

## WELL DRILLING REQUIREMENTS

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### III. WELL SUBSURFACE REQUIREMENTS:

#### A. GENERAL DRILLING REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties, in sufficient time for a representative to witness:

A. Spudding                      B. Existing casing: 12 1/4 inch; 8 5/8 inch; 4 1/2 inch.                      C. BOP Tests

2. A Hydrogen Sulfide (H2S) Drilling Plan is not required for this wellbore.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

#### B. CASING:

1. The 12 1/4 inch shall be set 407 Feet with cement circulated to the surface. Existing casing on all three strings. The intermediate and production strings has been cut at some points. Tie ins will couple the strings back together to eliminate the open hole sections.

2. The minimum required fill of cement behind the 8 5/8 inch Intermediate casing is to circulate the new placement through out the open hole.

3. The minimum required fill of cement behind the 4 1/2 inch Production casing is to circulate above the top of the Abo by at least 500 feet.

#### C. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No.

2. The BOP and related equipment shall be installed and operational before drilling below the 8 5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2 M psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the test.

-The test shall be done by an independent service company

-The results of the test shall be reported to the appropriate BLM office.

-Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures.

-Use of drilling mud for testing is not permitted since it can mask small leaks.

-Testing must be done in safe workman-like manner. Hard line connections shall be required.

-Both low pressure and high pressure testing of BOPE is required.

**IV. ON LEASE - WELL REQUIREMENTS:**

A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: Yates Petroleum Corporation  
Well Name & No.: Roosevelt Special "BIO" Federal #1  
Lease No.: NM-98205  
Footage: 660' FNL & 1980' FEL  
Location: Section 33, T. 8 S., R. 36 E.

C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).

E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

**F. Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.
2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).
3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.
4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

**G. Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Supplemental Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is **"Olive Drab 18-0622 TPX"** (Colors derived from **"PANTONE" FOR Architecture and Interiors Color Guide**).

**H. Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public land. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

**I. Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.
2. New production equipment installed on federal leases after November 1<sup>st</sup>, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

**V. Invasive and Noxious Weeds Requirement:**

A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

VI. SPECIAL REQUIREMENT(S):

A. Lesser Prairie Chicken Stipulation:

The Roswell Approved Resource Management Plan and Record Of Decision addresses the preservation of the Lesser prairie chicken wildlife habitat. In cooperation with NMDGF, the RFO shall also consider the preservation of the North Bluit Lesser Prairie Chicken Management Area.

1. There shall be no earthmoving construction activities, well exploratory and/or developmental drilling, well completion, and plugging and abandonment activities, **between the dates February 15<sup>th</sup> through June 30<sup>th</sup>** of each year. During that period, other activities, including the operation and maintenance of oil and gas facilities, will not be allowed between **3:00 A.M. and 9:00 A.M. and 5:00 P.M. to 8:00 P.M.** to prevent disturbances to lesser prairie-chicken lekking activities. To the extent practicable, activities occurring for a short period of time may be conducted so long as they do not commence until after **9:00 A.M.** Waiver requests from February 15<sup>th</sup> to February 29<sup>th</sup> and June 16 to June 30 will be considered. Any deviation from this stipulation must be approved in writing by the Roswell Field Office Manager or the appropriate Authorized Officer.
2. All motors or engines that produce high noise levels shall have mufflers installed that effectively reduce excessive noise levels within prairie chicken habitat. High noise levels produced by motors or engines shall be reduced and muffled so as not to exceed 75 db measured at 30 feet from the source of the noise.
3. Upon abandonment of the well, reclamation activities can be conducted **between the dates February 15<sup>th</sup> through June 30<sup>th</sup>**, so long as reclamation work shall not be conducted between the hours of **3:00 A.M. to 9:00 A.M. and 5:00 P.M. to 8:00 P.M.** to prevent disturbances to lesser prairie-chicken lekking activities. Any deviation from this requirement shall require prior approval by the Authorized Officer.
4. In an emergency situation, the Authorized Officer can allow a pit to be constructed for the purpose of collecting crude oil for removal. To prevent wildlife from entering the pit, netting of adequate size to deter access by wildlife shall cover the pit until it is no longer a threat to wildlife, and the pit is reclaimed.

**B. Prior to commencing construction of the well pad the protruding pipeline and other miscellaneous equipment that is on well pad shall be removed and disposed of in an authorized disposal site.**



# EXHIBIT C

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## CONDITIONS OF APPROVAL

OPERATOR: Yates Petroleum Corporation  
LEASE NO: NM-98205  
WELL NAME & NO.: Roosevelt Special "BIO" Federal #1  
LOCATION: Section 33, T. 8 S., R. 36 E.  
QUARTER/QUARTER & FOOTAGE: NW¼NE¼ - 660' FNL & 1980' FEL  
COUNTY: Roosevelt County, New Mexico, N.M.P.M.

### GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public lands under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.
4. **Weed Control:**
  - A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

CONDITIONS OF APPROVAL

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B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

## **5. Hazardous Substances:**

a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, *et. seg.*) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seg.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seg.*) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

## **6. Undesirable Events:**

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal land, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal land, or to repair all damages to Federal land resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

**7. Archaeological, Paleontology, and Historical Sites:**

- a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.
- b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

**8. Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

9. **Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

10. **Other:** None

# EXHIBIT D

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## PERMANENT RESOURCE ROAD REQUIREMENTS

**Operator:** Yates Petroleum Corporation  
**BLM Serial Number:** NM-98205  
**Well Name & No.:** Roosevelt Special "BIO" Federal #1  
**Location:** Section 33, T. 8 S., R. 36 E.  
660' FNL & 1980' FEL, Roosevelt County, N.M., N.M.P.M.

The holder agrees to comply with the following requirements:

### 1. GENERAL REQUIREMENTS:

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least it's former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

### 2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southeast** corner of the well pad to comply with the planned access road route.

### 3. ROAD TRAVELWAY WIDTH:

On a nonsurfaced road the travelway of the road shall not exceed the construction of a 14 foot wide road.

## PERMANENT RESOURCE ROAD REQUIREMENTS

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### 4. NON-SURFACING:

A. **Surfacing material is not required on the existing access road travelway.** The Holder has the option to surface the access road if the Holder considers it necessary. Should the Holder elect to surface the access road, the Holder shall submit a Sundry Notices And Reports On Wells requesting approval for a change in the conditions of approval to surface the access road. The Holder shall obtain written approval from the Authorized Officer prior to surfacing (Call 505-627-0340). The surfacing material, depth and type, will be determined at the time of approval.

B. **To the extent possible the holder shall utilize the existing road as is.** The nonsurfaced access road shall have a travelway which creates the smallest possible surface disturbance and does not exceed 14 feet in width. No drive-arounds with the exception of turnouts, are allowed outside the travelway.

C. The Authorized Officer reserves the right to require surfacing of the access road at any time if deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

D. The existing access road shall be maintained to the extent possible in a good drivable condition, no improvements shall be made on the access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water. **The Department of Game & Fish prefers that no surface material is used on the existing road, except to build up road soft spots.**

## **5. CROWNING AND DITCHING:**

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching shall be required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

## **6. DRAINAGE:**

A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings.

B. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

### CROSS SECTION OF TYPICAL LEAD-OFF DITCH

1' MINIMUM DEPTH

BERM

NATURAL GROUND SURFACE

C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

#### FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

$$\text{Ex. 4\% slope: spacing interval} = \frac{400}{4} + 100 = 200 \text{ feet}$$

#### **7. CULVERT INSTALLATION: No culverts are required on this road.**

ONE (1) CULVERT SHALL BE INSTALLED AT THE DEEP WATERWAY CHANNEL FLOW CROSSING IN THE XX¼XX¼ OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).

Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

#### **PERMANENT RESOURCE ROAD REQUIREMENTS**

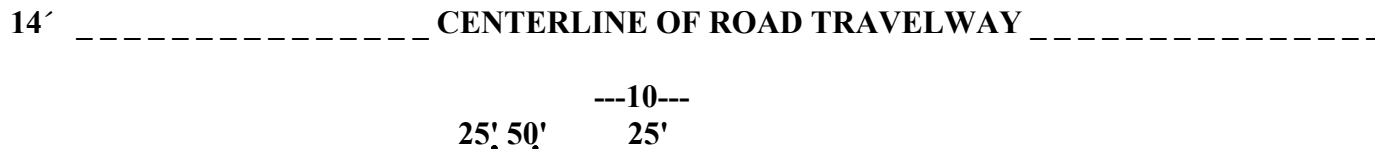
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#### **8. TURNOUTS: No Turnouts Are Required On This Road.**

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with

additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:

**STANDARD TURNOUT - PLAN VIEW**



**9. CATTLEGUARDS:      NONE REQUIRED**

A. ONE (1) CATTLEGUARD SHALL BE INSTALLED AT THE FENCE CROSSING IN THE XX<sup>1</sup>/<sub>4</sub>XX<sup>1</sup>/<sub>4</sub> OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).

B. A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).

C. The existing cattleguard(s) on the access road shall be replaced if they are damaged from heavy vehicular traffic use and the Authorized Officer determines that a new cattleguard shall be installed where the existing in place cattleguard(s) have deteriorated beyond practical use. The holder shall be held responsible for the condition of the existing in place cattleguard(s) that are utilized for vehicular traffic use on lease operations by the holder.

D. Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards – Exhibit X – Diagram A & B). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

**10. MAINTENANCE:**

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation and cleaning, cattleguard maintenance, surfacing and weed control.

**PERMANENT RESOURCE ROAD REQUIREMENTS**

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B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the

holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

#### **11. PUBLIC ACCESS:**

A Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

#### **12. ROAD REHABILITATION REQUIREMENTS:**

A. SEE -SURFACE RECLAMATION/RESTORATION REQUIREMENTS - Exhibit E.

B. On private estate land the restoration procedures on the reclamation of the access road shall be accomplished in accordance with the Private Surface Land Owner concurrence. If the surface land owner does not retain the access road for his ranch operations, upon abandonment of this well, the surface material (caliche/gravel) shall be removed from the access road.

#### **13. SPECIAL REQUIREMENT(S):**

A. The Department Of Game & Fish requests that construction operations be conducted with a of minimum amount of earth moving disturbances. At the on-site the G & F preferred that the construction operations should be kept to a minimum and that road and pad should not be surfaced unless there were areas that required surfacing to maintain the integrity of the road or work areas. The Holder shall adhere to the extent possible of minimizing the amount of surface disturbances.

## **EXHIBIT E**

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**SURFACE RECLAMATION/RESTORATION REQUIREMENTS**



OPERATORS NAME: Yates Petroleum Corporation LEASE NO.: NM-98205  
WELL NAME & NO: Roosevelt Special "BIO" Federal #1  
QUARTER/QUARTER & FOOTAGE: NW¼NE¼ - 660' FNL & 1980' FEL  
LOCATION: Section 33, T. 8 S., R. 36 E.  
COUNTY: Roosevelt County, New Mexico, NMPM

**I. GENERAL PROVISIONS:**

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who administers the reclamation requirements.
- C. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad.

**II. FORM 3160-5, SUNDRY NOTICES AND REPORTS ON WELLS:**

- A. The holder shall adhere to the following:
  - 1. If the well is not drilled, please notify the BLM so that an official release can be approved.
  - 2. **Downhole requirement:** If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", an original and five (5) copies shall be submitted to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc..
  - 3. The same notification shall be required of the Holder for the reclamation/restoration of the access road and well pad. The Holder shall initially report surface reclamation/restoration of the access road and well pad concurrently with the Downhole requirement. A Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", an original and five (5) copies shall be submitted to the Roswell Field Office. Upon receipt of the "**NOI**" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.

**SURFACE RECLAMATION/RESTORATION REQUIREMENTS**

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- 4. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.

5. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, that shall ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request for the final approval of the access road and well pad.

### **III. BOND LIABILITY:**

A. Liability under bond shall be retained until all surface reclamation/restoration of the access road and well pad has been completely reclaimed to the satisfaction of the Authorized Officer.

### **IV. ACCESS ROAD AND WELL PAD RECLAMATION REQUIREMENTS:**

1. If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain.
2. Upon abandonment of the well, cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less. The road shall be recontoured to as near the original topography, as possible.
3. Upon abandonment of the well, all production equipment shall be removed from the well pad and properly disposed of.
4. **On private estate land the restoration procedures on the reclamation of the access road and well pad shall be accomplished in accordance with the Private Surface Land Owner concurrence. If the surface land owner does not retain the access road and/or well pad for his operations, upon abandonment of this well, the surface material (caliche/gravel) shall be removed from the access road and well pad.**
5. The surfacing material that is removed can be used on existing surfaced roads in need of maintenance, or hauled to a federal material pit for disposal. If the material is to be used on a road or hauled to a material pit, contact the BLM Authorized Officer at (505) 627-0272 for possible additional requirements.

## **SURFACE RECLAMATION/RESTORATION REQUIREMENTS**

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6. Upon removal of the surfacing material, the access road and well pad shall be ripped a maximum of **16** inches deep (Ripping depth will be determined by depth of soil shown in the Soil Conservation Service Survey Handbook).
7. All culverts and other road structures (e.g.: cattleguard, H-Braces, signs, etc.) shall be removed and properly disposed of.

8. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches, and any other excavated earthwork shall be back filled.
9. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

**V. Reserve Pit Reclamation Requirements:**

- A. Upon reclamation of the reserve pit, the impervious, reinforced, synthetic or fabricated 12 mil in thickness liner shall be used to encapsulate the reserve pit cuttings.
- B. The dried cuttings in the reserve pit shall be buried a minimum depth of three (3) feet below ground level.
- C. The reserve pit area shall be covered with a three (3) feet minimum cap of clean soil or like material that is capable of supporting native plant growth. Once the reserve pit contents have been capped, the cap shall not be disturbed without NMOCD approval.
- D. Should the cuttings in the reserve pit not meet the three (3) feet below ground level depth, the excess contents shall be removed from the reserve pit until the required minimum depth of three (3) feet below ground level requirement has been met. The excess cuttings shall be removed from the well location and shall be properly disposed of at an authorized disposal site.
- E. Contact Richard G. Hill at (505) 627-0247, three days before commencing the reserve pit reclamation.

**VI. SEEDING REQUIREMENTS:**

- A. No topsoil stockpile is required on this well pad.
- B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.
- C. The same seed mixture shall be used for the reclamation of the access road and well pad.
- D. The planting of the seed shall be done in accordance with the following seeding requirements:

**SURFACE RECLAMATION/RESTORATION REQUIREMENTS**

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1. The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and is planted first; the holder shall take appropriate measures to ensure this does not occur.

Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. Desired Plant Community seed mixture to be planted in pounds of pure live seed per acre:

Roswell fine sand, 2-25% slope; Jalmar fine sand, 0-2% slope; Faskin, loamy fine sand, 0-2% slope; Malmstrom loamy fine sand, 0-2% slope, Brownfield severely eroded, 0-3% slope.

#### **Sandy Plains CP-2 Ecological Site – Deep Sand CP-2 Ecological Site**

<u>Common Name and Preferred Variety</u>	<u>Scientific Name</u>	<u>Pounds of Pure Live Seed Per Acre</u>
Little bluestem var. Pastura	<i>Schizachyrium scoparium</i>	0.50 lb.
Sideoats grama, var. Vaughn	<i>Bouteloua curtipendula</i>	1.50 lbs.
Indiangrass, Var. Cheyenne	<i>Sorghastrum nutans</i>	0.50 lb.
Sand dropseed	<i>Sporobolus cryptandrus</i>	0.50 lb.
Big bluestem,	<i>Andropogon gerardii</i>	0.50 lb.
Buckwheat	<i>Eriogonum spp.</i>	1.50 lb.
Plains bristlegrass	<i>Setaria macrostachya</i>	2.00 lbs.
Prairie coneflower	<i>Ratibida columnifera</i>	0.50 lb.
Desert or Scarlet Globemallow	<i>Sphaeralcea ambigua</i> or <i>S. coccinea</i>	<u>0.50 lb.</u>
<b>TOTAL POUNDS PURE LIVE SEED PER ACRE</b>		<b>8.00 lbs.</b>

#### **SURFACE RECLAMATION/RESTORATION REQUIREMENTS**

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**4. If one species is not available, increase ALL others proportionately. The seed mixture shall be certified weed free seed. A minimum of 6 species is required, including 1 forb species. No less than 8.0 pounds PLS per acre shall be applied.**

E. The recommended time to seed is from June 15<sup>th</sup> through September 15<sup>th</sup>. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15<sup>th</sup> - Nov. 15<sup>th</sup>, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

F. The seeding of the disturbed areas shall be repeated until a vegetative thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed areas is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetative growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad are futile.

H. Contact Mr. Randy Legler at (505) 627-0215 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.

I. Invasive and Noxious Weeds Requirement:

1. The holder shall be held responsible if noxious weeds become established within the reclaimed areas. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the road, pad, associated pipeline corridor/routes, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

2. The holder shall insure that the equipment and or vehicles that will be used to reclaim the access roads and well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to reclamation of the access roads and well pad.